

Presentation to the California Water Commission

SFPUC Green Bond Program

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Green Bonds Overview

- Green bonds are like conventional bonds in how they are sold and repaid
- Proceeds are used for projects with climate mitigation and/or adaptation benefits
- Projects are certified “Green” by the issuer (self certified) or by an independent verifier

Climate Bonds Taxonomy

The Climate Bonds Taxonomy identifies the assets and projects needed to deliver a low carbon economy and gives GHG emissions screening criteria consistent with the 2-degree global warming target set by the COP 21 Paris Agreement. More information is available at <https://www.climatebonds.net/standard/taxonomy>.

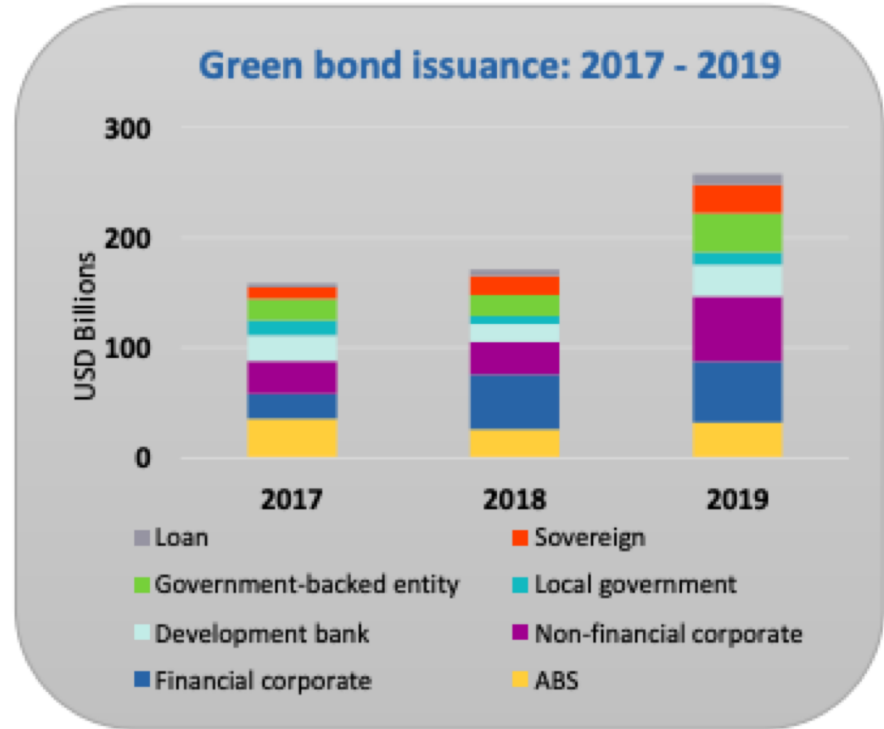


ENERGY	TRANSPORT	WATER	BUILDINGS	LAND USE & MARINE RESOURCES	INDUSTRY	WASTE	ICT
Solar	Private transport	Water monitoring	Residential	Agriculture	Cement production	Preparation	Broadband networks
Wind	Public passenger transport	Water storage	Commercial	Commercial Forestry	Steel, iron & aluminium production	Reuse	Telecommuting software and service
Geothermal	Freight rail	Water treatment	Products & systems for efficiency	Ecosystem conservation & restoration	Glass production	Recycling	Data hubs
Bioenergy	Aviation	Water distribution	Urban development	Fisheries & aquaculture	Chemical production	Biological treatment	Power management
Hydropower	Water-borne	Flood defence		Supply chain management	Fuel production	Waste to energy	
Marine Renewables		Nature-based solutions				Landfill	
Transmission & distribution						Radioactive waste management	
Storage							
Nuclear							

- Certification Criteria approved
- Criteria under development
- Due to commence

Current State of Green Bond Market

- \$258 billion issued in 2019, of which \$51 billion was issued in the US (\$1 trillion Paris goal)
- Overall green bond growth has been strong, relatively flat for US municipal issuers
- Big opportunity for \$400 billion/yr municipal bond market which finances many green projects but only \$10 billion/yr is labeled green



SFPUC Green Bonds, \$2.6B Issued



green bond
pledge



London
Stock Exchange

2015

**Power
\$32M**

- Self-Certified
- Expanded Investor Base

2016

**Water \$259M
Wastewater \$241M**

- Climate Bonds Initiative (CBI) Certified
- First bonds issued under CBI's Water criteria; Expanded investor base

2017

**Water
\$506M**

- CBI-Certified
- Expanded investor base

2018

**Wastewater
\$408M**

- CBI-Certified
- Expanded investor base
- More demand for green than non green

2019

**Water
\$623M**

- CBI-Certified
- Expanded investor base
- Green series oversubscribed and 11 maturities oversubscribed with ESG investors

2020

**Water
\$492M**

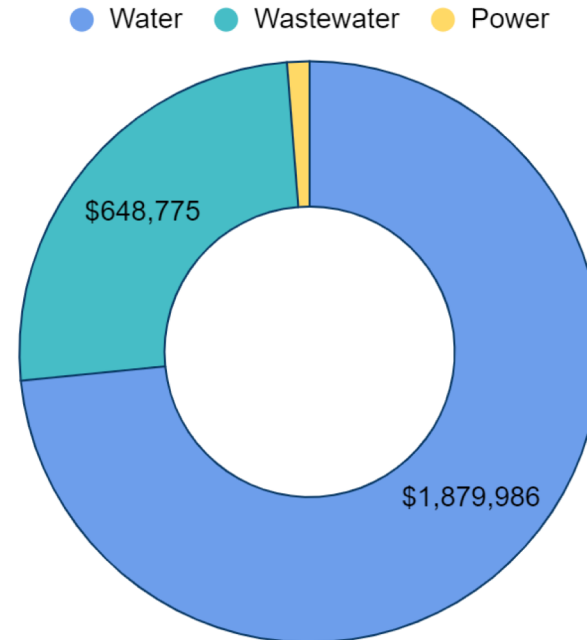
- CBI-Certified
- Expanded investor base
- More demand for green than non green and pricing benefit
- European listing



Outcomes of SFPUC Green Bond Program

- Increase investor base to ESG investors
- Demand is high, small but measurable price benefit
- Increasing transparency on project selection, environment impacts and co-benefits
- Reputational and marketing benefits

SFPUC Total Green Bond Issuance \$2.6B Since 2015
(In thousands)



SFPUC Green Bond Reports

- Reports project and SFPUC-wide climate and social impacts
- Details how SFPUC investments meet state, city, and department environmental and social goals
- In response to investors, impacts are aligned to the United Nations Sustainable Development Goals

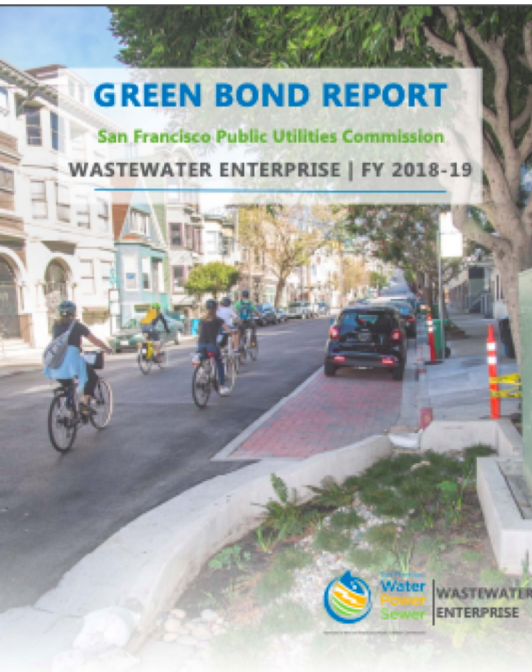


Image: Alligie Neighborhood Green Center





Green Bond Implications for Munis

- Presents an opportunity to expand investor base and generate reputational benefits
- Potential for lower borrowing costs, especially with taxable bonds
- May influence project selection and lead to virtuous cycle of climate aligned projects financed at a lower cost